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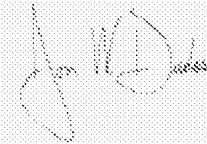
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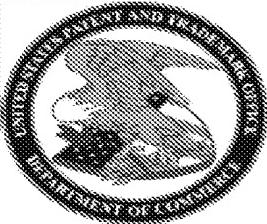
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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

EL 995078957 US

INVENTOR(S)

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 Additional inventors are being named on the _____ separately numbered sheets attached hereto**TITLE OF THE INVENTION (500 characters max)****Digital/Analog Closed Caption System**Direct all correspondence to: **CORRESPONDENCE ADDRESS** Customer Number

OR

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ENCLOSED APPLICATION PARTS (check all that apply)

- | | | | |
|---|---|--|-------|
| <input checked="" type="checkbox"/> Specification Number of Pages | 3 | <input type="checkbox"/> CD(s), Number | _____ |
| <input checked="" type="checkbox"/> Drawing(s) Number of Sheets | 1 | <input type="checkbox"/> Other (specify) | _____ |
| <input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76 | | | |

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

- | | |
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| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. | FILING FEE AMOUNT (\$) |
| <input type="checkbox"/> A check or money order is enclosed to cover the filing fees | |
| <input checked="" type="checkbox"/> The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: <u>07-0832</u> | |
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

 No. Yes, the name of the U.S. Government agency and the Government contract number are: _____Respectfully submitted,
SIGNATURE

(Page 1 of 2)

Date

12/08/03

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(if appropriate)

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Docket Number:

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Digital/Analog Closed Caption System

Most television signal processing systems in the United States provide for processing auxiliary information such as closed caption (CC) information. That is, the system extracts closed caption data from a television signal and generates a signal suitable for displaying the closed caption information. A television system described herein is capable of processing a digital television signal (e.g., ATSC) and can process both digital and analog auxiliary information. In the case of closed captioning, the described digital television system can extract and process digital closed caption information according to standard EIA-708 and analog closed caption information according to standard EIA-608.

A system as described herein includes a user interface (UI) feature allowing the user the option to select CC priority for digital programming (ATSC). One option is to use Digital CC (EIA-708) and never use Analog CC. Another option is to use Analog CC (EIA-608) and never use Digital CC. If a user selects the first option, a television system would only display CC on the screen if the Digital CC were available for that channel (program). Even if Analog CC were available, it would not be displayed on the screen. The television signal processing system described herein also provides for extracting and displaying CC (Analog or Digital) for digital programming (ATSC), if present. That is, the present system allows the user the option of selecting a fallback method of obtaining captioning for a digital program signal if the digital program signal does not include Digital CC.

If the user selects and enables the fallback method, to display CC on a digital channel, the system looks at the ATSC stream for available CC data. If there is no Digital CC (EIA-708) data present, the system looks for embedded Analog CC (EIA-608) data. If data is present, then Analog CC data is decoded and Analog CC will be displayed on the screen.

The system continues to check for the presence of Digital CC data. If Digital CC is detected at any point in time, the system will start displaying Digital CC.

An aspect of the described system involves processing television signals during the transition from analog programming to digital programming. During this transition, service providers transfer the analog content to digital content for video and audio. To support CC on digital channels, content providers simply embed the Analog CC data in the ATSC stream with specific headers. The EIA-708B specification describes how to detect embedded EIA-608 CC data. The present system uses this information to provide the described features including the fallback method involving displaying Analog CC (EIA-608) on a digital channel. Therefore, the described system provides the CC service for digital programming (ATSC) irrespective of the type of CC service (Analog/Digital) available for a program or channel. As ATSC channels have more bandwidth, it is possible to include both Analog as well as Digital CC services.

Figure 1 shows a flowchart illustrating an exemplary embodiment of the described system including the fallback method of displaying CC data. The system shown in Figure 1 involves the television signal processing system being tuned to a digital channel playing digital programming. However, the described system is applicable to other

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systems that involve processing a television signal that may include both digital and analog auxiliary information.

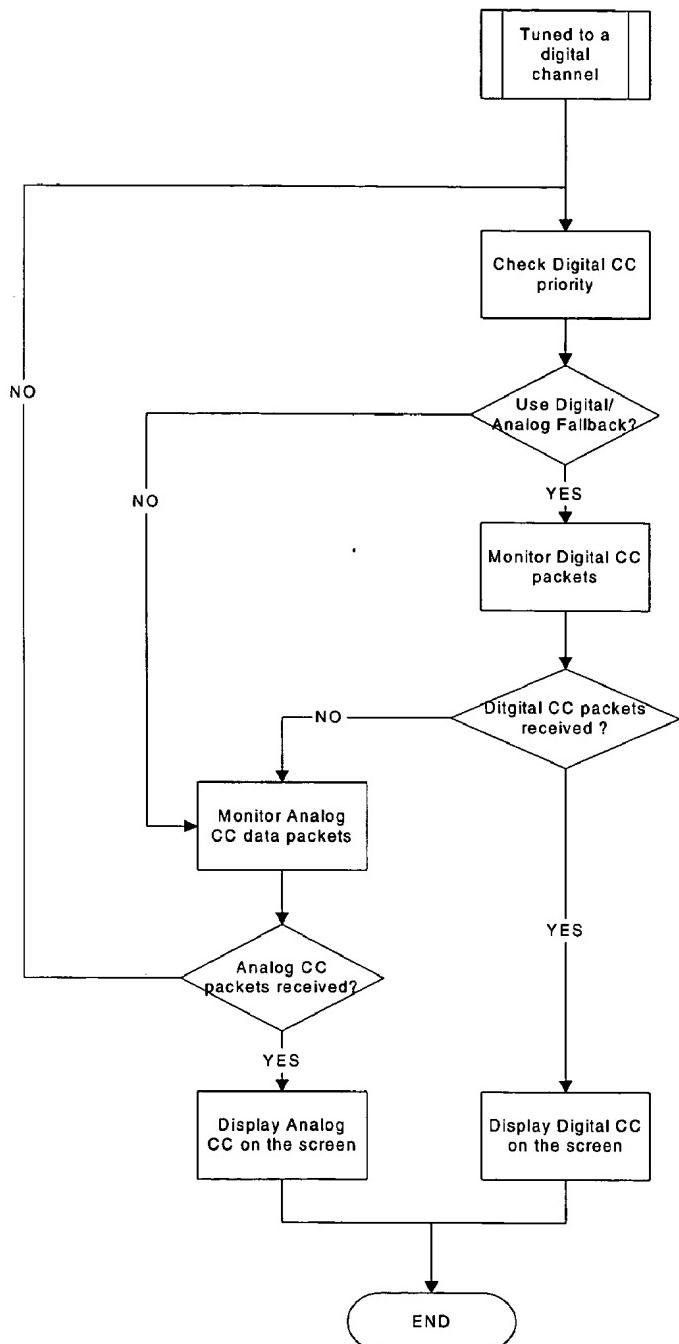
Digital/Analog CC Fallback for digital programming (ATSC)

Figure 1